P4M900-M7 SE/P4M890-M7 TE BIOS Setup

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BIOS Setup

Introduction

The purpose of this manual is to describe the settings in the Phoenix-Award™ BIOS Setup program on this motherboard. The Setup program allows users to modify the basic system configuration and save these settings to CMOS RAM. The power of CMOS RAM is supplied by a battery so that it retains the Setup information when the power is turned off.

Basic Input-Output System (BIOS) determines what a computer can do without accessing programs from a disk. This system controls most of the input and output devices such as keyboard, mouse, serial ports and disk drives. BIOS activates at the first stage of the booting process, loading and executing the operating system. Some additional features, such as virus and password protection or chipset fine-tuning options are also included in BIOS.

The rest of this manual will to guide you through the options and settings in BIOS Setup.

Plug and Play Support

This PHOENIX-AWARD BIOS supports the Plug and Play Version 1.0A specification and ESCD (Extended System Configuration Data) write.

EPA Green PC Support

This PHOENIX-AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

This PHOENIX-AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can also be managed by this PHOENIX-AWARD BIOS.

ACPI Support

Phoenix-Award ACPI BIOS support Version 1.0b of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

PCI Bus Support

This PHOENIX-AWARD BIOS also supports Version 3.0 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR2 SDRAM (Double Data Rate Synchronous DRAM) is supported.

Supported CPUs

This PHOENIX-AWARD BIOS supports the Intel CPU.

Using Setup

Use the arrow keys to highlight items in most of the place, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

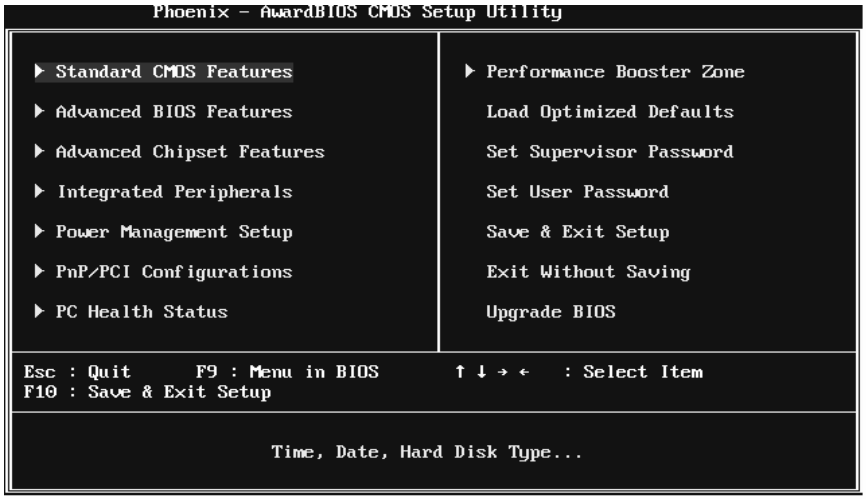
Keystroke	Function
Up arrow	Move to previous item
Down arrow Left arrow	Move to next item Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key F5 key	General help on Setup navigation keys Load previous values from CMOS
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

1 Main Menu

Once you enter Phoenix-Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

> *!! WARNING !!*
>
> For better system performance, the BIOS firmware is being continuously updated. The BIOS information described in this manual (**Figure 1, 2, 3, 4, 5, 6, 7, 8, 9**) is for your reference only. The actual BIOS information and settings on board may be slightly different from this manual.

■ **Figure 1: Main Menu**


Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP/PCI Configurations
PC Health Status
Performance Booster Zone
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Upgrade BIOS
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Time, Date, Hard Disk Type...

Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure advanced features of the BIOS.

Advanced Chipset Features
This submenu allows you to configure special chipset features.

Integrated Peripherals
This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

Power Management Setup
This submenu allows you to configure the power management features.

PnP/PCI Configurations
This submenu allows you to configure certain "Plug and Play" and PCI options.

PC Health Status
This submenu allows you to monitor the hardware of your system.

Performance Booster Zone
This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock. (However, we suggest you to use the default setting. Changing the voltage and clock improperly may damage the CPU or M/B!)

Load Optimized Defaults
This selection allows you to reload the BIOS when problem occurs during system booting sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

Set Supervisor Password
Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to enter a password.

Set User Password

If the Supervisor Password is not set, then the User Password will function in the same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.

Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. Confirmation message will be displayed before proceeding.

Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.

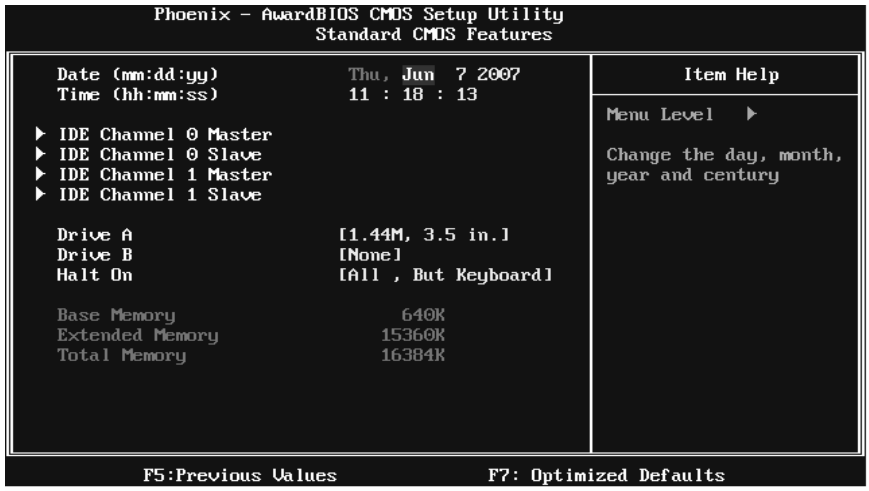
Upgrade BIOS

This submenu allows you to upgrade bios.

2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the<PgUp> or <PgDn> keys to select the value you want in each item.

- **Figure 2: Standard CMOS Setup**


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Thu, Jun 7 2007
Time (hh:mm:ss) 11 : 18 : 13
IDE Channel 0 Master
IDE Channel 0 Slave
IDE Channel 1 Master
IDE Channel 1 Slave
Drive A [1.44M, 3.5 in.]
Drive B [None]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 15360K
Total Memory 16384K
Item Help
Menu Level ▶
Change the day, month, year and century
F5:Previous Values
F7: Optimized Defaults

Main Menu Selections

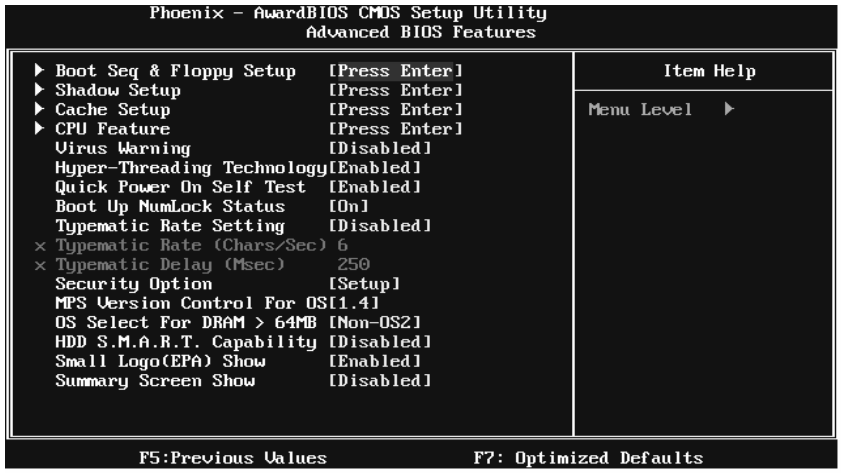
This table shows the items and the available options on the Main Menu.

Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
IDE Channel 0 Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Channel 0 Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.

Item	Options	Description
IDE Channel 1 Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Channel 1 Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

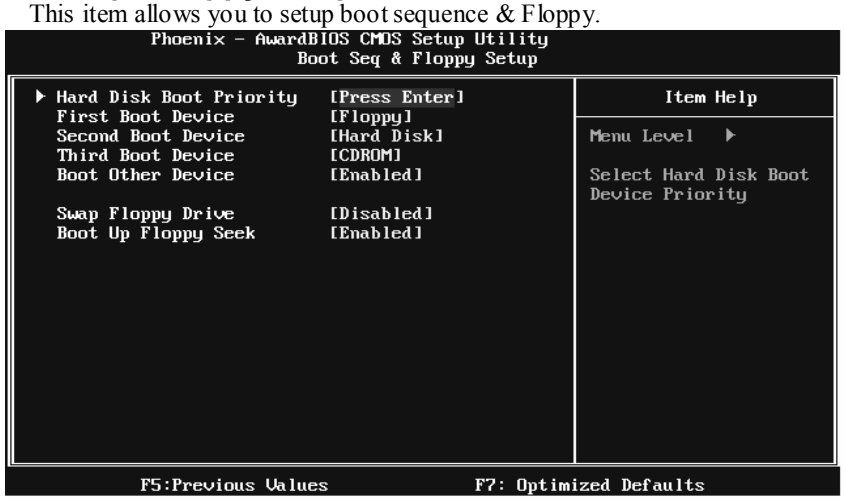
3 Advanced BIOS Features

- **Figure 3: Advanced BIOS Setup**


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Boot Seq & Floppy Setup [Press Enter]
Shadow Setup [Press Enter]
Cache Setup [Press Enter]
CPU Feature [Press Enter]
Virus Warning [Disabled]
Hyper-Threading Technology [Enabled]
Quick Power On Self Test [Enabled]
Boot Up NumLock Status [On]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
MPS Version Control For OS [1.4]
OS Select For DRAM > 64MB [Non-OS2]
HDD S.M.A.R.T. Capability [Disabled]
Small Logo(EPA) Show [Enabled]
Summary Screen Show [Disabled]
Item Help
Menu Level
F5:Previous Values
F7: Optimized Defaults

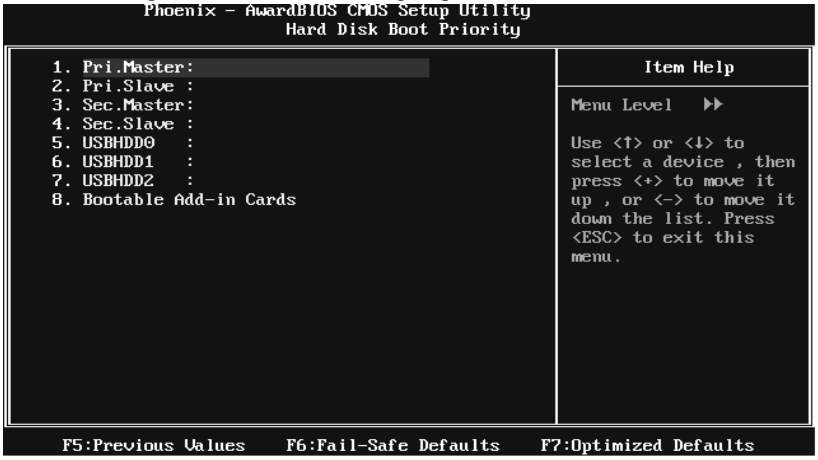
Boot Seq & Floppy Setup

This item allows you to setup boot sequence & Floppy.


Phoenix - AwardBIOS CMOS Setup Utility
Boot Seq & Floppy Setup
Hard Disk Boot Priority [Press Enter]
First Boot Device [Floppy]
Second Boot Device [Hard Disk]
Third Boot Device [CDROM]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Item Help
Menu Level
Select Hard Disk Boot Device Priority
F5:Previous Values
F7: Optimized Defaults

Hard Disk Boot Priority

The BIOS will attempt to arrange the Hard Disk boot sequence automatically. You can change the Hard Disk booting sequence here.


Phoenix - AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority
1. Pri.Master:
2. Pri.Slave :
3. Sec.Master:
4. Sec.Slave :
5. USBHDD0 :
6. USBHDD1 :
7. USBHDD2 :
8. Bootable Add-in Cards
Item Help
Menu Level ▶▶
Use <↑> or <↓> to select a device , then press <+> to move it up , or <-> to move it down the list. Press <ESC> to exit this menu.
F5:Previous Values
F6:Fail-Safe Defaults
F7:Optimized Defaults

The Choices: Pri. Master, Pri. Slave, Sec. Master, Sec. Slave, USB HDD0, USB HDD1, USB HDD2, and Bootable Add-in Cards.

First/Second/Third Boot Device

The BIOS will attempt to load the operating system in this order.

The Choices: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, LAN, Disabled.

Boot Other Device

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.

The Choices: Enabled (default), Disabled

Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

The Choices: Disabled (default), Enabled.

Boot Up Floppy Seek

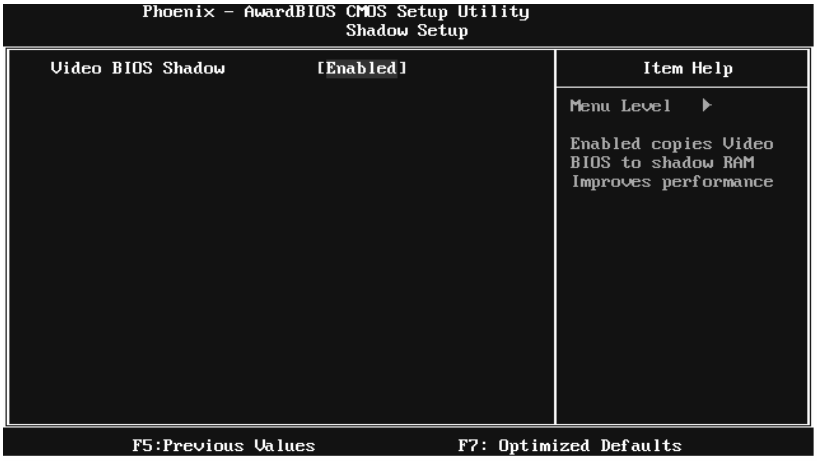
When enabled, System will test the floppy drives to determine if they have 40 or 80 tracks during boot up. Disabling this option reduces the time it takes to boot-up.

The Choices: Enabled (default), Disabled.

Shadow Setup

This item allows you to setup cache & shadow setup.

■ **Figure 3.2: Shadow Setup**



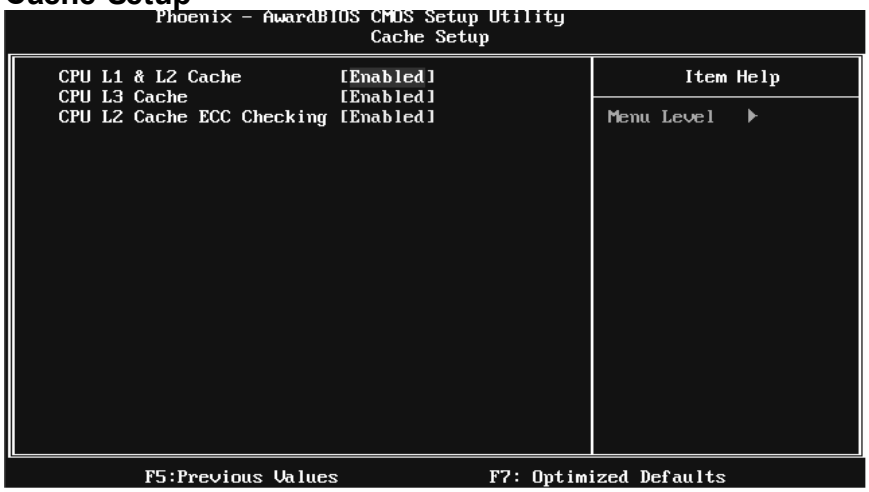
Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution or not.

Enabled (default) Optional ROM is enabled.

Disabled Optional ROM is disabled.

Cache Setup



CPU L1 & L2 Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default) Enable cache.

Disabled Disable cache.

CPU L3 Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default) Enable cache.

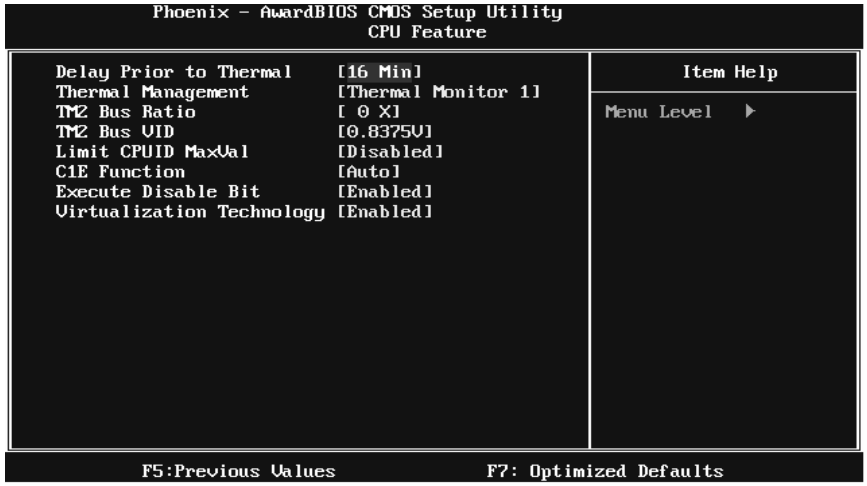
Disabled Disable cache.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC Checking.

The Choices: Enabled (default), Disabled.

CPU Feature



Delay Prior to Thermal

Set this item to enable the CPU Thermal function to engage after the specified time.

The Choices: 4 Min, 8 Min, **16Min** (default), 32 Min.

Thermal Management

This option allows you to select the way to control the "Thermal Management."

The Choices: Thermal Monitor 1 (default), Thermal Monitor 2.

TM2 Bus Ratio

This option represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor detects temperature increase.

Min= 0, Max= 255 ; Key in a DEC number.

The Choices: 0 X (default)

TM2 Bus VID

This option represents the voltage of the throttled performance state that will be initiated when the on-die sensor detects temperature increase.

The Choices: 0.8375V (default), 0.8375-1.6000.

Limit CPUID MaxVal

Set Limit CPUID MaxVal to 3, it should be "Disabled" for Windows XP.

The Choices: Disabled (default), Enabled.

C1E Function

This item allows you to configure the Enhanced Halt State (C1E) function, which may reduce the power consumption of your system when the system is idle.

The Choices: Auto (default)，Disabled.

Execute Disable Bit

This item allows you to configure the Execute Disabled Bit function, which protects your system from buffer overflow attacks.

The Choices: Enabled (default), Disabled.

Virtualization Technology

Virtualization Technology can virtually separate your system resource into several parts, thus enhance the performance when running virtual machines or multi interface systems.

The Choices: Enabled (default), Disabled.

Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Disabled (default) Virus protection is disabled.
Enabled Virus protection is activated.

Hyper-Threading Technology

This option allows you to enable or disabled Hyper-Threading Technology. "Enabled" for Windows XP and Linux 2.4.x (OS optimized for Hyper-Threading Technology). "Disable" for other OS (OS not optimized for Hyper-Threading Technology).

The Choices: Enabled (default), Disabled.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

Disabled Normal POST.
Enabled (default) Enable quick POST.

Boot Up NumLock Status

Selects the NumLock State after the system switched on.

The Choices:

On (default) Numpad is number keys.
Off Numpad is arrow keys.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be configured.

The Choices: Disabled (default), Enabled.

Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

The Choices: 6 (default)**,** 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The Choices: 250 (default)**,** 500, 750, 1000.

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

System: A password is required for the system to boot and is also required to access the Setup Utility.

Setup (default): A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification. Select version supported by the operation system running on this computer.

The Choices: 1.4 (default), 1.1.

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (default), OS2.

HDD S.M.A.R.T. Capability

This item allows you to enable/disable HDD S.M.A.R.T. Capability.

The Choices: Disabled (default), Enabled.

Small Logo(EPA) Show

This item allows you to select whether the "Small Logo" shows. Enabled (default) "Small Logo" shows when system boots up. Disabled No "Small Logo" shows when system boots

The Choices: Enabled (default), Disabled

Summary Screen Show

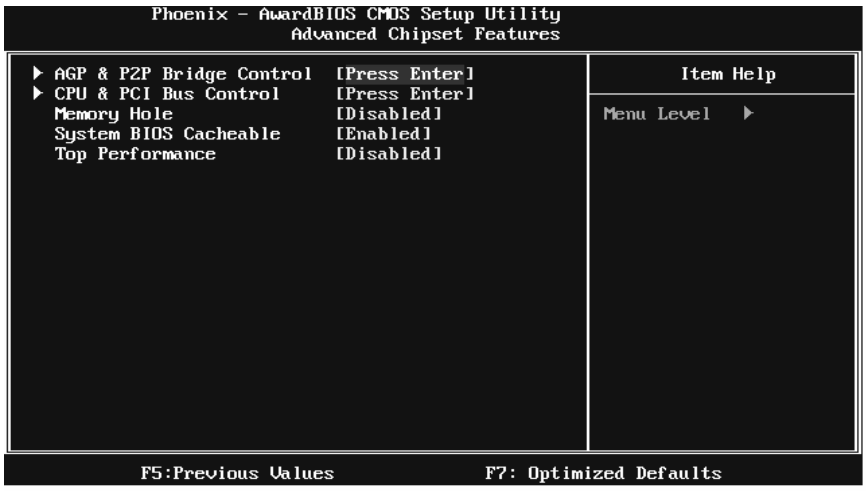
This item allows you to enable/disable the summary screen. Summary screen means system configuration and PCI device listing.

The Choices: Disabled (default), Enabled.

4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage bus speeds and access to system memory resources, such as DRAM. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

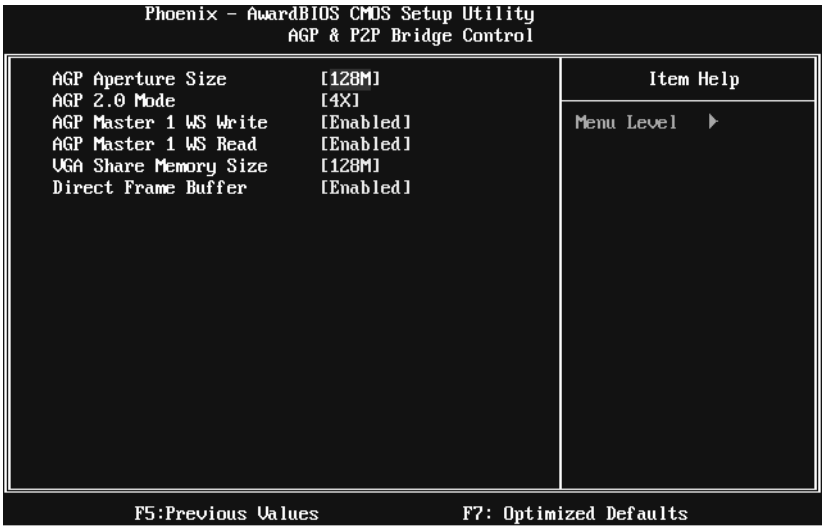
- **Figure 4: Advanced Chipset Setup**



AGP & P2P Bridge Control

Highlight "Press Enter" next to the "AGP & P2P Bridge Control" label and pressing the enter key will take you a submenu with the following options:

■ **Figure 4.1: AGP & P2P Bridge Control**


Phoenix - AwardBIOS CMOS Setup Utility
AGP & P2P Bridge Control
AGP Aperture Size [128M]
AGP 2.0 Mode [4X]
AGP Master 1 WS Write [Enabled]
AGP Master 1 WS Read [Enabled]
VGA Share Memory Size [128M]
Direct Frame Buffer [Enabled]
Item Help
Menu Level ▶
F5:Previous Values
F7: Optimized Defaults

AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without the need of translation.

The Choices: 32M, 64M, **128M** (default), 256M.

AGP 2.0 Mode

This item allows you to select the AGP Mode.

The Choices: 4X (default), 2X, 1X.

AGP Master 1 WS Write

When enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Enabled (default), Disabled.

AGP Master 1 WS Read

When enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait states.

The Choices: Enabled (default), Disabled.

VGA Share Memory Size

This item allows you to select the VGA share memory size.

The Choices(for P4M900-M7 SE): 128M (default), 64M, 256M, Disabled

The Choices(for P4M890-M7 TE): 64M (default), 16M, 32M, 128M, 256M, Disabled

Direct Frame Buffer

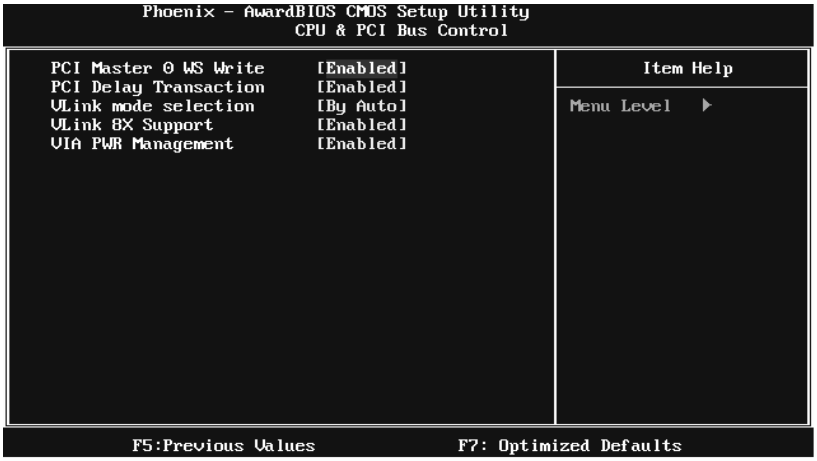
This item allows you to disabled or enabled direct frame buffer

The Choices: Enabled (default), Disabled.

CPU & PCI Bus Control

By highlighting the "Press Enter" label next to the "CPU & PCI Bus Control" and press the enter key, it will take you a submenu with the following options:

- **Figure 4.2: CPU & PCI Bus Control**


Phoenix - AwardBIOS CMOS Setup Utility
CPU & PCI Bus Control
PCI Master 0 WS Write [Enabled]
PCI Delay Transaction [Enabled]
VLink mode selection [By Auto]
VLink 8X Support [Enabled]
VIA PWR Management [Enabled]
Item Help
Menu Level ▶
F5:Previous Values
F7: Optimized Defaults

PCI Master 0 WS Write

When enabled, writes to the PCI bus are executed with zero-wait states.

The Choices: Enabled (default), Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification.

The Choices: Enabled (default), Disabled.

VLink mode selection

This item allows you to select Vlink mode.

The Choices: By Auto (default), Mode 0 , Mode 1, Mode 2, Mode 3, Mode 4.

VLink 8X Support

This item allows you to enable or disable VLink 8X support.

The Choices: Enabled (default), Disabled.

VIA PWR Management

The Choices: Enabled (default), Disabled.

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved it cannot be cached. Check the user information of peripherals that need to use this area of system memory for the memory requirements.
The Choices: Disabled (default), 15M-16M.

System BIOS Cacheable

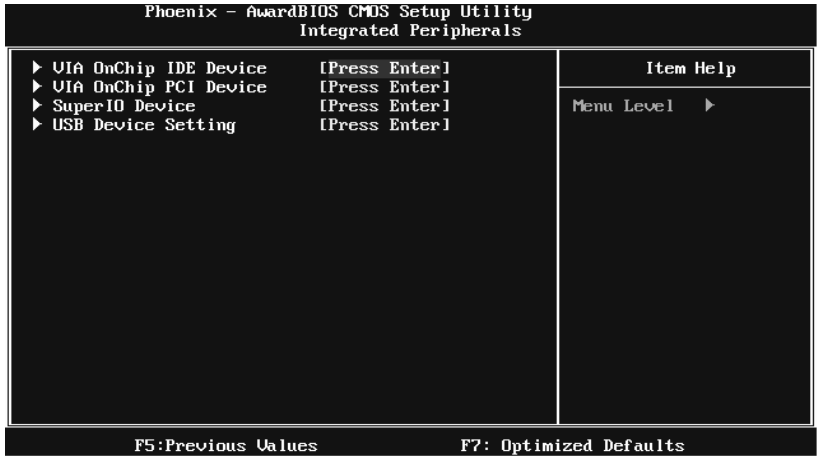
Selecting the "Enabled" option allows caching of the system BIOS ROM at F0000h-FFFFFh, which is able to improve the system performance. However, any programs that attempts to write to this memory block will cause conflicts and result in system errors.
The Choices: Enabled (default), Disabled.

Top Performance

The Choices: Disabled (default), Enabled.

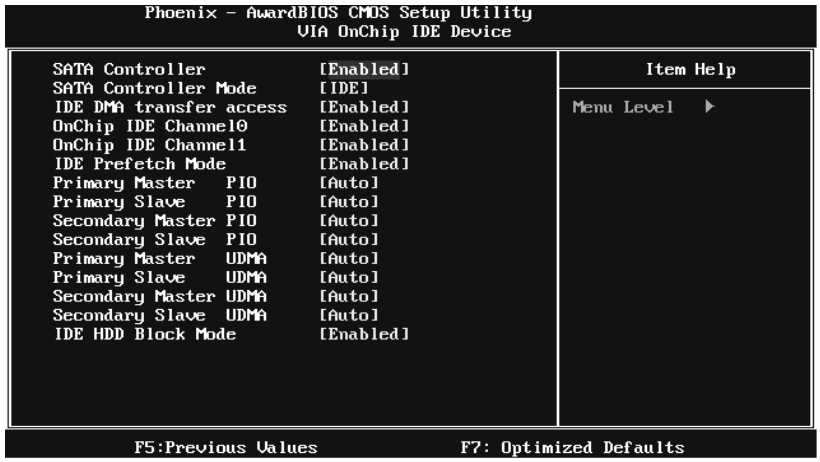
5 Integrated Peripherals

■ **Figure 5. Integrated Peripherals**



VIA OnChip IDE Device

Highlight the "Press Enter" label next to the "VIA OnChip IDE Device" label and press enter key will take you a submenu with the following options:



SATA Controller

This option allows you to enable the on-chip Serial ATA.

The Choices: Enabled (default), Disabled.

SATA Controller Mode

This option allows you to select SATA Mode.

The Choices: RAID, **IDE** (default).

IDE DMA Transfer Access

This item allows you to enable or disable the IDE DMA transfer access.

The Choices: Enabled (default), Disabled.

On-chip IDE Channel 0/1

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

The Choices: Enabled (default), Disabled.

IDE Prefetch Mode

The "onboard" IDE drive interfaces supports IDE prefetch function for faster drive access. If the interface on your drive does not support prefetching, or if you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".

The Choices: Enabled (default), Disabled.

Primary/Secondary Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

Primary/Secondary Master/Slave UDMA

Ultra DMA function can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 or OSR2may need a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.

The Choices: Auto (default), Disabled.

IDE HDD Block Mode

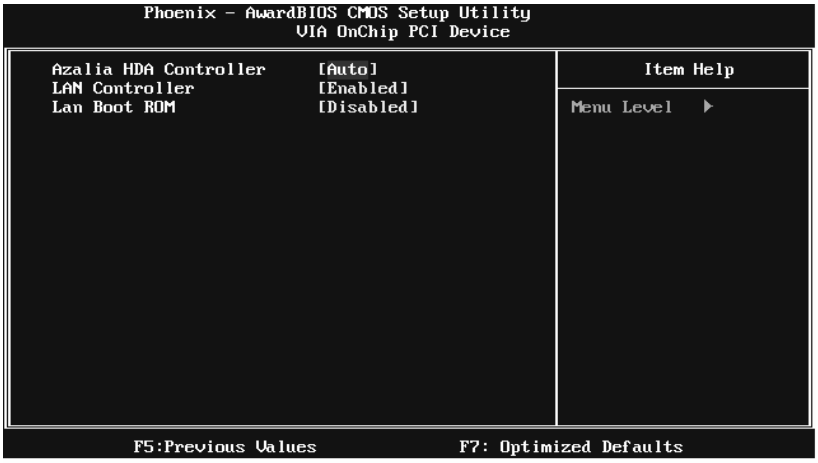
Block mode is also called block transfer, multiple commands, or multiple sectors read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.

The Choices: Enabled (default), Disabled.

VIA OnChip PCI Device

Highlight the "Press Enter" label next to the "VIA OnChip PCI Device" label and press the enter key will take you a submenu with the following options:

- **Figure 5.2: VIA OnChip PCI Device**



Azalia HDA Controller

This option allows you to control the onboard HD audio.

The Choices: Auto (default), Disabled.

LAN Controller

This option allows you to control the onboard LAN.

The Choices: Enabled (default), Disabled

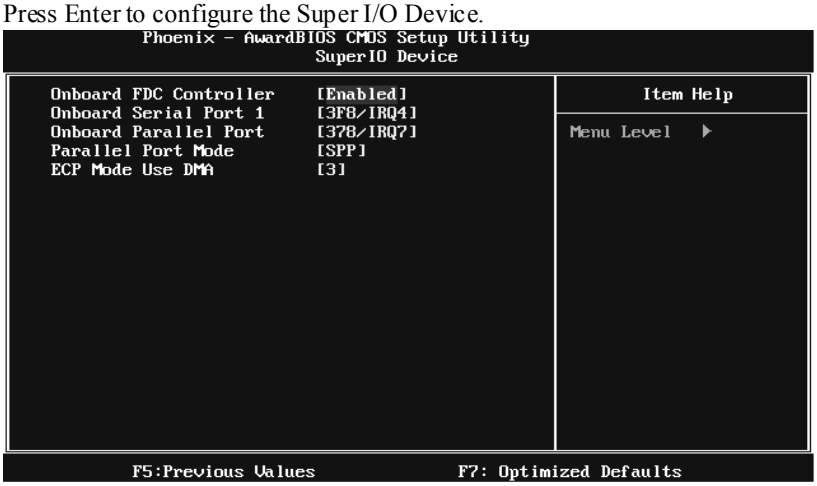
Lan Boot ROM

Decide whether to invoke the boot ROM of the onboard LAN chip.

The Choices: Disabled (default), Enabled.

Super IO Device

Press Enter to configure the Super I/O Device.



Onboard FDC Controller

Select enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you installed another FDC or the system uses no floppy drive, select disabled in this field.

The Choices: Enabled (default), Disabled.

Onboard Serial Port 1

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: 3F8/IRQ4 (default), Disabled, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

The Choices: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

This item allows you to determine how the parallel port should function. The default value is SPP.

The Choices:

SPP (default)	Using Parallel port as Standard Printer Port.
EPP	Using Parallel Port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

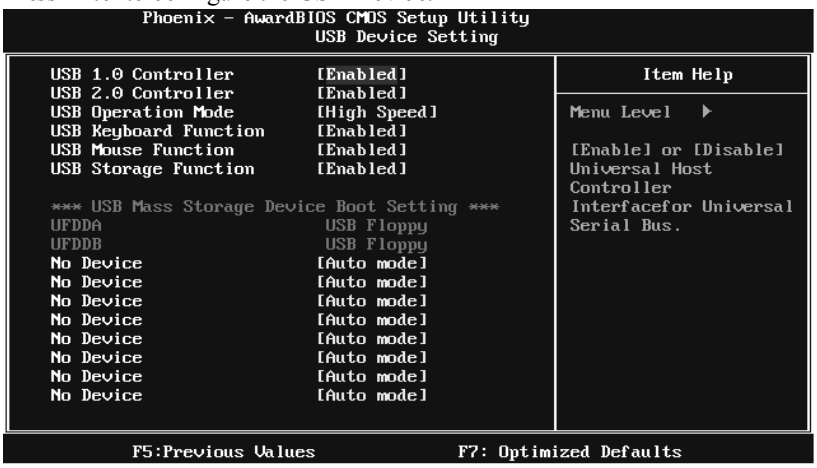
ECP Mode Use DMA

Select a DMA Channel for the port.

The Choices: 3 (default), 1.

USB Device Setting

Press Enter to configure the USB Device.


Phoenix - AwardBIOS CMOS Setup Utility
USB Device Setting
USB 1.0 Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Operation Mode [High Speed]
USB Keyboard Function [Enabled]
USB Mouse Function [Enabled]
USB Storage Function [Enabled]
*** USB Mass Storage Device Boot Setting ***
UFDDA USB Floppy
UFDDB USB Floppy
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
No Device [Auto mode]
Item Help
Menu Level ▶
[Enable] or [Disable] Universal Host Controller Interfacefor Universal Serial Bus.
F5:Previous Values
F7: Optimized Defaults

USB 1.0/2.0 Controller

These options allow you to enable or disable the USB 1.0/2.0 controller function.

The Choices: Enabled (default), Disabled.

USB Operation Mode

This option let you select the operation mode of USB function.

The Choices: High Speed (default), Full/Low Speed.

USB Keyboard/Mouse/Storage Function

These options allow you to enable or disable the USB keyboard/mouse/storage devices.

The Choices: Enabled (default), Disabled.

USB Mass Storage Device Boot Setting

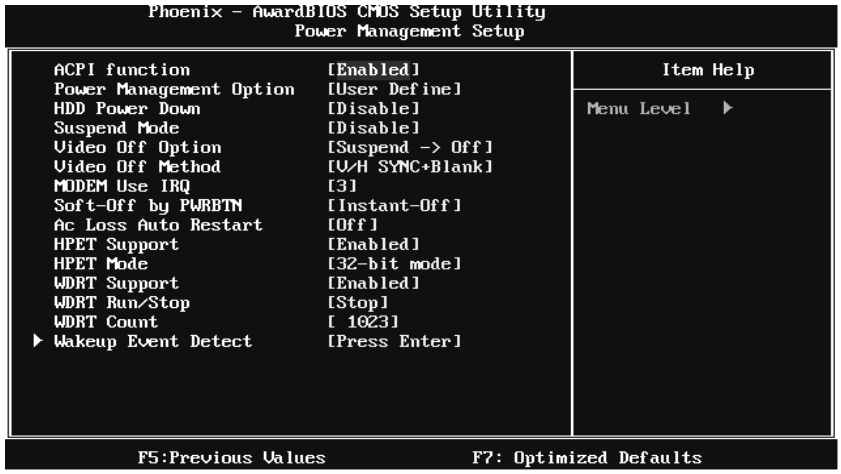
These options allow you to choose the boot up type of the USB mass storage devices..

The Choices: Auto mode (default), FDD mode, HDD mode.

6 Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

■ **Figure 6. Power Management Setup**



ACPI Function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled (default), Disabled.

Power Management Option

This category allows you to select the power saving method and is directly related to the following modes:

1. HDD Power Down.
2. Suspend Mode.

There are three options of Power Management, three of which have fixed mode settings

Min. Saving
Minimum power management.
Suspend Mode = 1 hr.
HDD Power Down = 15 min

Max. Saving
Maximum power management only available for sl CPU's.
Suspend Mode = 1 min.
HDD Power Down = 1 min.

User Define (default)
Allow you to set each option individually.
When you choose user define, you can adjust each of the item from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min.

HDD Power Down

When enabled, the hard-disk drives will power down after a set time of system inactivity. All other devices remain active.
The Choices: Disabled (default), 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15Min.

Suspend Mode

The item allows you to adjust the system idle time before suspend.
The Choices: Disabled (default), 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour.

Video Off Option

This field determines when to activate the video off feature for monitor power management.
The Choices: Suspend→Off (default), Always on.

Video Off Method

This option determines the manner when the monitor goes blank.

V/H SYNC+Blank (default)
This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen
This option only writes blanks to the video buffer.

DPMS Support
Initial display power management signaling.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.
The Choices: 3 (default), 4, 5, 7, 9, 10, 11, NA.

Soft-Off by PWRBTN

This item determines the behavior of system power button. Instant off turn off the power immediately, and Delay 4 Sec. will require you to press and hold the power button for 4 seconds to cut off the system power.
The Choices: Delay 4 Sec, **Instant-Off** (default).

Ac Loss Auto Restart

This setting specifies how your system should behave after a power fail or interrupts occurs. By choosing off will leave the computer in the power off state. Choosing On will reboot the computer. Former-Sts will restore the system to the status before power failure or interrupt occurs.
The Choices: Off (default), On, Former-Sts.

HPET Support

This option allows you to disabled or enables the High Precision Event Timer.
The Choices: Enabled (default), Disabled.

HPET Mode

This option allows you to select the modes of the High Precision Event Timer.
The Choices: 32-bit mode (default), 64-bit mode.

WDRT Support

This option allows you to disabled or enables the Watchdog Timer.
The Choices: Enabled (default), Disabled.

WDRT Run/Stop

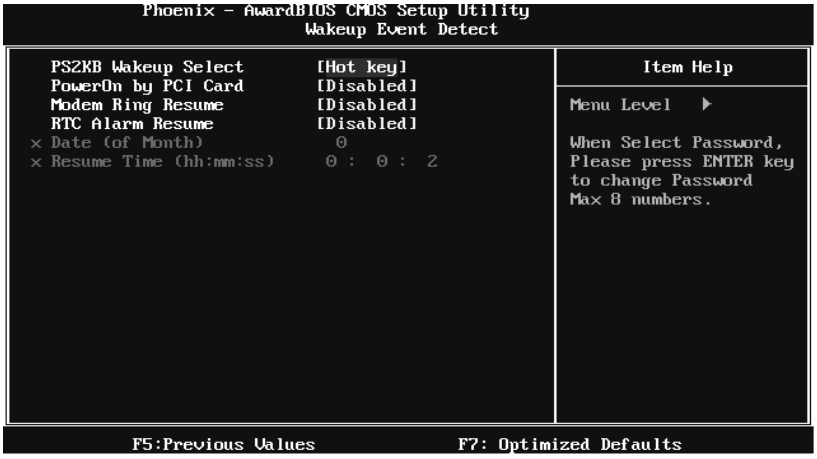
This option allows you to select the mode of Watchdog Timer.
The Choices: Stop (default), Run.

WDRT Count

This option allows you to control the count of the Watchdog Timer.
The Choices: 1023 (default); min=0, max=1023, key in a DEC number.

Wakeup Event Detect

Figure 6.1:IRQ/Event Activity Detect


Phoenix - AwardBIOS CMOS Setup Utility
Wakeup Event Detect
PS2KB Wakeup Select [Hot key]
PowerOn by PCI Card [Disabled]
Modem Ring Resume [Disabled]
RTC Alarm Resume [Disabled]
x Date (of Month) 0
x Resume Time (hh:mm:ss) 0 : 0 : 2
Item Help
Menu Level ▶
When Select Password, Please press ENTER key to change Password Max 8 numbers.
F5:Previous Values
F7: Optimized Defaults

PS2KB Wakeup Select

When select Password, please press Enter key to change password with a maximum length of 8 characters.

The Choices: Hot Key (default), Password.

PowerOn by PCI Card

When you select Enabled, a PME signal from PCI card returns the system to Full ON state.

For this function to work, you may need a LAN add-on card which supports the Wake on LAN function. Set the Wake on LAN (WOL) jumper on motherboard to enable if applicable.

The Choices: Disabled (default), Enabled.

Modem Ring Resume

This item allows you to disable or enable Modem Ring Resume function.

The Choices: Disabled (default), Enabled.

RTC Alarm Resume

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: Disabled (default), Enabled.

Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

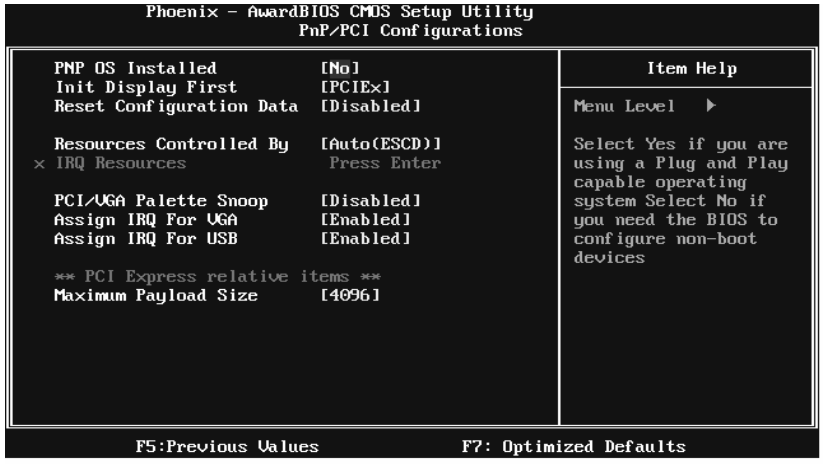
Resume Time (hh:mm:ss)

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Resume" is set to "Enabled".

7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

- **Figure 7: PnP/PCI Configurations**


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
PNP OS Installed [No]
Init Display First [PCIEx]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
× IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For VGA [Enabled]
Assign IRQ For USB [Enabled]
** PCI Express relative items **
Maximum Payload Size [4096]
Item Help
Menu Level ▶
Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
F5:Previous Values
F7: Optimized Defaults

PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: No (default), Yes.

Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

The Choices: PCIEx(default), PCI Slot, Onboard, AGP.

Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict.

Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signify that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (default), Enabled.

Resources Controlled By

By Choosing **"Auto(ESCD)"** (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing "Manual", the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

The Choices: Auto (ESCD) (default), Manual.

IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to PCI Device
IRQ-4	assigned to PCI Device
IRQ-5	assigned to PCI Device
IRQ-7	assigned to PCI Device
IRQ-9	assigned to PCI Device
IRQ-10	assigned to PCI Device
IRQ-11	assigned to PCI Device
IRQ-12	assigned to PCI Device
IRQ-14	assigned to PCI Device
IRQ-15	assigned to PCI Device

PCI / VGA Palette Snoop

Some old graphic controllers need to "snoop" on the VGA palette and then map it to their display as a way to provide boot information and VGA compatibility. This item allows such snooping to take place.
The Choices: Disabled (default), Enabled

Assign IRQ For VGA

This item allows the users to choose which IRQ to assign for the VGA.
The Choices: Enabled (default), Disabled.

Assign IRQ For USB

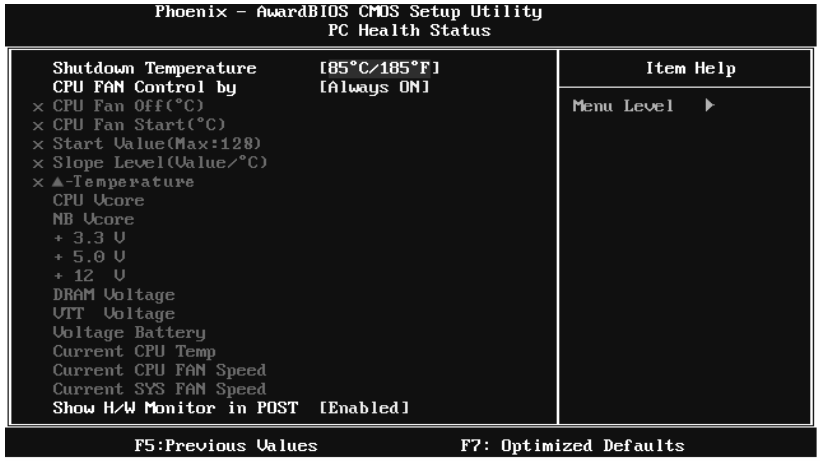
This item allows the users to choose which IRQ to assign for the USB.
The Choices: Enabled (default), Disabled.

Maximum Payload Size

Set the maximum payload size for Transaction packets (TLP).
The Choice: 4096 (default.), 128, 256, 512, 1024, 2048.

8 PC Health Status

■ **Figure 8: PC Health Status**



Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item is only effective under Windows 98 ACPI mode.

The Choices: 65℃/ 149℉, 70℃/ 158℉, 75℃/ 167℉, 80℃/ 176℉, **85℃/ 185℉** (default), 90℃/ 167℉, 95℃/ 194℉, Disabled.

CPU FAN Control by

This item allows you to choose the way to control the CPU FAN.

The Choices: Manual, **Always On** (default), Smart Lv1, Smart Lv2, Smart Lv3.

CPU Fan Off (℃)

CPU fan will stop working under smart fan function when arrive this set value.

The Choices: Min=0, Max=100; key in a DEC number.

CPU Fan Start (℃)

CPU fan starts to work under smart fan function when arrive this set value.

The Choices: Min=0, Max=100; key in a DEC number.

Start Value (Max:128)

When CPU temperature arrives to the set value, the CPU fan will work under Smart Fan Function mode. The range is from 0~128, with an interval of 1.
The Choices: Min=0, Max=128; key in a DEC number.

Slope Level (Value/℃)

Increasing the value of slope PWM will raise the speed of CPU fan.
The Choices: Min=0, Max=15; key in a DEC number.

▲-Temperature

This item allows you to set the deviation of the temperature.
The Choices: Min=0, Max=31; key in a DEC number.

CPU Vcore, NB Vcore, +3.3V, +5.0V, +12V, DRAM Voltage, VTT Voltage, Voltage Battery

Detect the system's voltage status automatically.

Current CPU Temp

This field displays the current temperature of CPU.

Current CPU FAN Speed

This field displays the current speed of CPU fan.

Current SYS FAN Speed

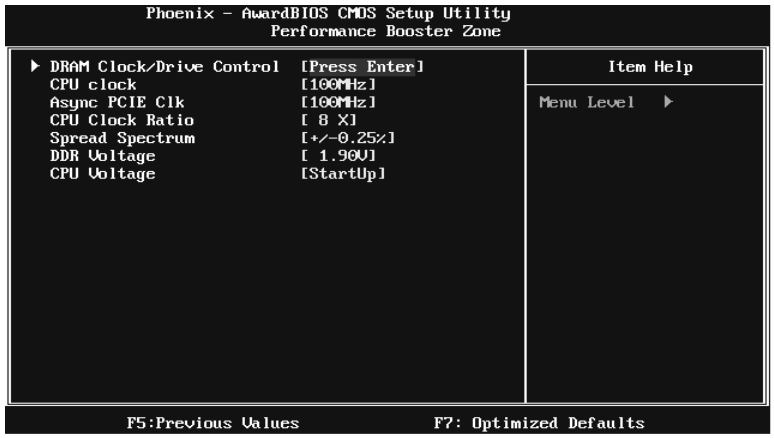
This field displays the current speed SYSTEM fan.

Show H/W Monitor in POST

If you computer contains a monitoring system, it will show PC health status during POST stage. The item offers several different delay times.
The Choices: Enabled (default), Disabled.

9 Performance Booster Zone

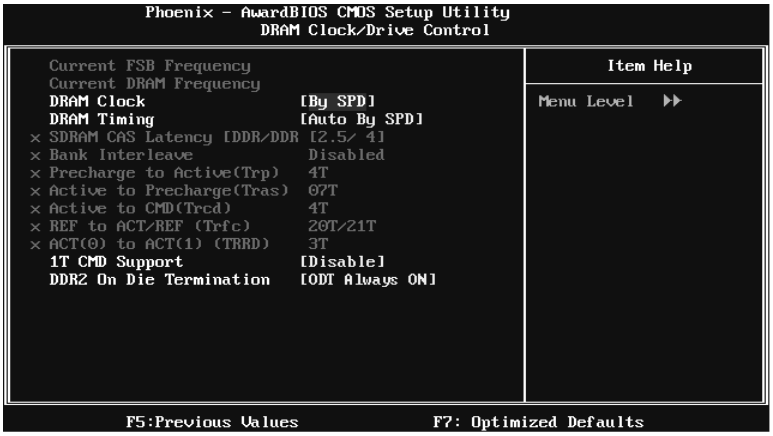
- **Figure 9: Performance Booster Zone**



DRAM Clock/Drive Control

This item controls the DRAM Clock. Highlight "Press Enter" next to the "DRAM Clock/Drive Control" label and pressing the enter key will take you a submenu with the following options:

- **Figure 9.1: DRAM Clock/Drive Control**


Phoenix - AwardBIOS CMOS Setup Utility
DRAM Clock/Drive Control
Current FSB Frequency
Current DRAM Frequency
DRAM Clock [By SPD]
DRAM Timing [Auto By SPD]
x SDRAM CAS Latency [DDR/DDR [2.5/ 4]
x Bank Interleave Disabled
x Precharge to Active(Trp) 4T
x Active to Precharge(Tras) 07T
x Active to CMD(Trcd) 4T
x REF to ACT/REF (Trfc) 20T/21T
x ACT(0) to ACT(1) (TRRD) 3T
1T CMD Support [Disable]
DDR2 On Die Termination [ODT Always ON]
Item Help
Menu Level ▶▶
F5:Previous Values
F7: Optimized Defaults

DRAM Clock
This item determines DRAM clock.

The Choices: By SPD (default), 100MHz, 133MHz, 166MHz, 200MHz, 266MHz, 333MHz .

DRAM Timing
This item determines DRAM clock/ timing.

The Choices: Auto by SPD (default), Manual, Turbo, Ultra.

SDRAM CAS Latency
When DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

The Choices: 2.5 /4(default).

Bank Interleave
This item allows you to enable or disable the bank interleave feature.

The Choices: Disabled (default).

Precharge to Active (tRP)
This item allows you to specify the delay from precharge command to activate command.

The Choices: 4T (default).

Active to Precharge (tRAS)
This item allows you to specify the minimum row active time (tRAS).

The Choices: 07T (default).

Active to CMD (tRCD)
Use this item to specify the delay from the activation of a bank to the time that a read or write command is accepted.

The Choices: 4T (default).

REF to ACT/REF to REF (Trfc)
This item allows you to determine the selection for REF to ACT/REF to REF (tRFC).

The Choices: 20T/21T (default).

ACT (0) to ACT (1) (tRRD)

This item allows you to determine the selection for ACT (0) to ACT (1) (tRRD)

The Choices: 3T (default).

1T CMD Support

The Choices: Disable (default), Auto.

DDR2 On Die Termination

This option allows you to choose the working type of ODT.

The Choices: ODT Always ON (default), Dynamic ODT, ODT Always OFF.

CPU CLOCK

This item allows you to select CPU Clock, and CPU over clocking.
Special Notice:
If the system's frequency that you are selected is not functioning, there are two methods of booting-up the system.
Method 1:
Clear the COMS data by setting the JCOMS1 ((2-3) closed)) as "ON" status. All the CMOS data will be loaded as defaults setting.
Method 2:
Press the <Insert> key and Power button simultaneously, after that keep-on pressing the <Insert> key until the power-on screen showed.
This action will boot-up the system according to FSB of the processor
It's strongly recommended to set CPU Vcore and clock in default setting. If the CPU Vcore and clock are not in default setting, it may cause CPU or M/B damage.
The Choices: 100MHz(default); Min=100, Max=400, key in a DEC number.

Async PCIE CLOCK

This item allows you to select Async PCIE clock.
Min= 100 Max=150 Key in a DEC number.
The Choices: 100MHz(default) ; Min=100, Max=150, key in a DEC number.

CPU Clock Ratio

This item allows you to select the CPU Ratio.
Min= 6 Max= 50 Key in a DEC number.
The Choices: 6X (default).

Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function.
The Choices:+/- 0.25% (default), +/- 0. 5%, Disabled, -0.5%, -1.0%.

DDR Voltage

This item allows you to select DDR Voltage.
The Choices: StartUp (default), +0.10V, +0.20V, +0.30V, +0.40V, +0.50V, +0.60V, +0.70V.

CPU Voltage

This item allows you to select CPU Voltage.
The Choices: StartUp (default), +0.012V~+0.787V.